

**NATURAL RESOURCES CONSERVATION SERVICE
NEW JERSEY
CONSERVATION PRACTICE STANDARD**

AGRICHEMICAL HANDLING FACILITY

(No.)

INTERIM STANDARD 702

DEFINITION

A permanent structure with an impervious surface to provide an environmentally safe area for the handling of on-farm agrichemicals, such as pesticides and fertilizers, that are used in application operations on agricultural lands.

PURPOSE

This practice provides for the containment and isolation of spillage from on-farm agrichemical mixing, loading, unloading, and rinsing operations.

CONDITIONS WHERE PRACTICE APPLIES

This practice applies where current methods of mixing agrichemicals and rinsing equipment are polluting or can pollute, or harm, the soil, water, air, plant, or animal resources.

CRITERIA

General Criteria.

The agrichemical handling facility (AHF) shall include a watertight containment structure comprised of a concrete pad and depressed sump, and all necessary equipment for pumping, transferring, and storing contaminated water.

Fertilizer storage tanks shall be isolated from those used for pesticide storage at those sites where both types of chemicals are used.

Divert surface runoff from outside drainage areas around the facility. Measures shall be designed to divert runoff from a 25 year frequency storm event.

Facilities shall be located outside the 100 year flood plain and wetland areas.

Access shall be a gravel or paved ramp having a minimum length of 12 feet and a maximum slope of 15 percent grading away from the pad area. All other areas around the pad shall be stabilized against erosion.

All concrete materials shall comply with the requirements of ACI 318, "Building Code Requirements for Reinforced Concrete."

The containment volume for an AHF with a roof shall be 125 percent of the volume of the largest sprayer or storage tank that will be located on the pad. The containment volume for an unroofed AHF shall be 125 percent of the volume of the largest sprayer or storage tank that will be located on the pad, or the volume from a 2 year frequency 24 hour duration storm event over the entire pad area, whichever is greater.

Unroofed facilities shall incorporate means for handling or by-passing accumulated precipitation during non-use periods.

The facility and all components shall comply with applicable federal, state, and local laws and codes.

Pad. The pad shall be a concrete slab-on-grade with a positive slope of at least 2 percent (1/4 inch per foot) from all areas towards the sump. The minimum length and width of the pad shall be sufficient to accommodate the existing or anticipated equipment. Slab design shall consider the required performance and the critical applied loads along with both subgrade material and material resistance of the concrete slab. Design procedures shall be

based on subgrade drag theory as discussed in industry guidelines such as American Concrete Institute, ACI 360, "Design of Slabs-on-grade". As a minimum, slabs on a uniform foundation shall be 5 inches in thickness and shall contain distributed reinforcing steel.

The pad and sump shall be sealed with a chemically resistant, non-vapor barrier forming coating to prevent contamination of concrete surfaces.

Sump. The sump shall be watertight and constructed of non-corrodible material, and shall be of sufficient size to allow access for cleaning. The sump shall be covered with a corrosion resistant grating of sufficient strength to resist the anticipated loading. The sump shall not be used for storage of spillage or rinsate.

Roof. If provided, the roof shall cover the entire pad and shall extend sufficiently beyond the edge to prevent precipitation from accumulating on the pad. The minimum clearance between the lowest chord of the roof and the highest area of the pad shall provide clear access for the spray equipment. In the absence of more stringent local codes, design for snow and wind loads shall be as specified in ASAE EP288.4, Agricultural Buildings Snow and Wind Loads. Design shall be based on a 50 year recurrence interval.

Pump. The pump shall be dedicated to the facility and shall not be utilized for other purposes. The pump and appurtenances shall be corrosion resistant.

Storage tanks. Provisions shall be made for the temporary storage of 100 percent of the volume of the largest sprayer or chemical tank that will be on the pad, or 25 percent of the containment volume, whichever is greater. This volume may be provided with storage tanks dedicated to the purpose used alone or in combination with spray equipment tanks or other tanks that are reliably available. All dedicated storage tanks shall be permanently installed and above grade on the pad or an adjacent pad. Tanks shall be constructed of non-corrodible materials.

Piping. All piping and fittings necessary to transfer contaminated water shall be of a material compatible with the chemicals being

used. All transfer piping carrying contaminated water shall be mounted over the pad and shall be exposed for its entire length. Where piping cannot be exposed, double walled piping shall be utilized. Backflow prevention devices shall be installed between the pump and storage tanks and between storage tanks and spray tanks,

Pipelines supplying non-contaminated water to the facility shall be fitted with backflow prevention devices.

CONSIDERATIONS

In siting an AHF consider proximity to property lines, building structures, and environmentally sensitive areas such as springs, wells, lakes, wetlands, and sinkholes. Recommended separation distances are:

1. 50 feet to property lines and building structure,
2. 150 feet to areas of human use or occupancy,
3. 100 feet to environmentally sensitive areas, and
4. 2 feet to seasonally high groundwater level.

Siting should also consider on-farm traffic patterns and accessibility to chemical application and storage areas; proximity to utilities such as electric and water; effects of chemical drift on surrounding areas due to prevailing winds; adjacent land uses, building appearance and visibility.

Consider providing roof and sidewalls to exclude precipitation from the pad. The need for ventilation devices should be evaluated for enclosed facilities.

Consider the need for an emergency washing area equipped with faucet, pull chain shower, and emergency eye wash station.

Consider the need for providing additional storage tanks for the proper handling of rinsate and to avoid the mixing of different chemicals.

PLANS AND SPECIFICATIONS

Plans and specifications shall be prepared in accordance with the criteria of this standard and

shall describe the requirements for applying this practice to achieve its intended purpose.

The following statement shall appear on the first sheet of the construction drawings:

“Management of chemicals shall be the responsibility of the owner/operator and shall be in accordance with applicable federal, state, and local regulations.”

OPERATION AND MAINTENANCE

An operation and maintenance plan shall be developed that is consistent with the purpose of this practice, its intended life, and criteria for its design. It shall address:

1. Proper disposal and utilization of rinsate, exterior washwater, accumulated sediment, and spillage wastewater in accordance with pesticide labeling requirements and federal, state, and local codes and regulations.
2. Processes for handling accumulated precipitation.
3. Periodic inspection of hoses, pumps, piping, and testing of backflow prevention devices.
4. Inspection of the pad and sump for cracks and leaks.
5. Cleaning the pad and sump between different chemical mixing operations and removal of sediment accumulations.
6. Winterization of the facility.
7. Emergency response instructions in case of an accidental spill, exposure, fire, or other hazardous incident.
8. Posting of warning signs that hazardous chemicals are present.

REFERENCE

Designing Facilities for Pesticide and Fertilizer Containment MWPS-37.